

Lamar University
Department of Mathematics
MATH 3435 60 Fall I 2017
Wayne A Reaud 104
12:40 pm - 1:35 pm MW
12:45 pm - 1:40 pm TR

Instructor: Dr. Jennifer R. Daniel

Office: Lucas 200H

Office Hours: 11:00 - 12:00 MT and 2:00-3:00 WH and by appointment

E-Mail: jennifer.daniel@lamar.edu

Prerequisites: Grade of C or better in MATH 2414 or its equivalent

Textbook: Calculus: Early Transcendental Functions, Larson, 6th edition

Course Purpose: Functions of several variables, partial derivatives, vector functions, multiple integrals in different coordinate systems, line and surface integrals of both functions and vector fields, some basic 1st and 2nd order differential equations.

Student Learning Outcomes: Students who successfully complete the course will be able to:

1. Perform calculus operations on vector-valued functions, including derivatives, integrals, curvature, displacement, velocity, acceleration, and torsion.
2. Perform calculus operations on functions of several variables, including partial derivatives, directional derivatives, and multiple integrals.
3. Find extrema and tangent planes.
4. Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the
5. Apply the computational and conceptual principles of calculus to the solutions of realworld problems.
6. Convert and graph basic equations in Cartesian, cylindrical, or spherical coordinates.
7. Describe 3-D motion using vector functions.
8. Compute limits of functions of several variables.
9. Apply the chain rule to finding derivatives.
10. Apply Lagrange Multipliers to find extrema subject to constraints.
11. Change variables in multiple integrals.
12. Define a vector field and sketch a simple vector field.

13. Compute a line integral with respect to arc length, x , y , and z .
14. Identify a conservative vector field and compute a potential function for a conservative vector field.
15. Parameterize a surface

Core Curriculum Outcomes: Upon completion of this course, the student will demonstrate his or her abilities to think critically, communicate quantitative information, and apply mathematical concepts:

1. **Critical Thinking:** Develop a logical, consistent plan to solve a problem, recognize consequences of the solution, and articulate a reason for choosing solution method.
2. **Communication Skills:** Use and present quantitative information in connection with an argument or problem solution and explicate it in an effective format.
3. **Empirical and Quantitative:** Construct and present a detailed problem statement with evidence of relevant contextual factors and possible approaches for solving the problem, then implement a solution and review the results.

Requirements and Grades: The grade distribution for this course: In-class exams 45%, Homework 15%, In-class work 20%, and Final 20%. The final exam will be on December 11, 12:40-1:35 in Wayne A Reaud 104.

Make-up Policy: One homework will be dropped to compensate for any missed homework. Late homework will not be accepted. In-class work cannot be made up. An exam can be made up only if a student has a **documented** university approved excuse.

Attendance: Regular class attendance and basic standards of classroom decorum are expected. Students displaying obvious disinterest in the course, or those that disrupt class will be dropped from the course by the instructor. Examples of inappropriate behavior include, but are not limited to, reading non-course material in class, filing ones nails, sleeping in class, visiting with other class members, stepping out to take a phone call, or entering the classroom after the lecture has begun.

Arrive on time and plan on staying until the end of class, unless prior arrangements are made with the instructor. Habitual tardiness or leaving class early will result in an instructor initiated drop.

Electronic Devices: No electronic devices are to be used during class except a handheld calculator. Cellular phones need to be turned off and stowed during class. Disregarding this policy will result in an instructor initiated drop.

Students with Disabilities: In coordination with the Director of DRC, every effort will be made for this course to become a meaningful component of a students individualized education plan.

Plagiarism and Cheating: Students are specifically warned against all forms of cheating and plagiarism. The Lamar University Student Handbook states:

Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of resource materials.

Class Participation: Concern for the course can be displayed in any number of ways. Students who are alert, prepared, and open to exchanging ideas will be given every consideration in making borderline final grade decisions.

Lamar University expressly prohibits intimidation and harassment of students, faculty, staff, or applicants. <http://students.lamar.edu/academic-support/code-of-conduct.html>

Drop Policy: Please make note of the three dates indicated in this drop policy.

September 20, 2017: (Census Date-Six Drop Rule does not apply) A student may drop or withdraw without consulting with the instructor. The Six Drop Rule does not apply to a drop before 5:00 PM.

October 6, 2017: (Six Drop Rule applies) A student may drop or withdraw from the course without academic penalty and receive a Q, however, the Six Drop Rule applies after 5:00 PM. The student will consult with the instructor and the Records Office to initiate a drop.

November 10, 2017 (Six Drop Rule applies) Last day to drop or withdraw with academic penalty; the student must be passing the course at the time of the requested drop in order to receive a Q. The drop form, including all required signatures, must arrive in the Records Office by no later than 4:00 PM. No drop is allowed after this date except in extreme extenuating circumstances. Any late drop must be approved by the instructor, department chair, college dean, and provost.

Academic Integrity: Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Students are specifically warned against all forms of cheating and plagiarism. The Lamar University Student Handbook clearly reads: Any student found guilty of academic dishonesty in any phase of academic work will be subjected to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of source materials. One aspect of the Handbooks definition of cheating includes purchasing or otherwise acquiring and submitting as ones own work any research paper or other writing assignment prepared by an individual or firm. Plagiarism is defined as the appropriation and the unacknowledged incorporation of anothers work or ideas into ones own and submitted for credit. Faculty members in the College of Arts and Sciences investigate all cases of suspected plagiarism. Any student who is found cheating in this course will receive a course grade of F. <http://students.lamar.edu/student-handbook.html>

Accommodations through the Disability Resource Center: Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at 409-880-8347 or drc@lamar.edu to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact your

instructor early in the semester to review how the accommodations will be applied in the course. <http://www.lamar.edu/disability-resource-center>

Campus Closure: In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage (<http://www.lamar.edu>) for instructions about continuing courses remotely.

Emergency Procedures: Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at: <http://www.lamar.edu/about-lu/administration/risk-management/index.html>.

Following are procedures for the first two:

Severe Weather:

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

Violence/Active Shooter:

- CALL - 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- AVOID- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- DENY- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- DEFEND- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

Course Evaluations: You will have an opportunity to evaluate all aspects of this course in a formal process to be completed online near the end of the term. You will receive an email reminder through your LU account.